

RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/531,844A
Source: IFW/6
Date Processed by STIC: 10/06/2006

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IFW16

RAW SEQUENCE LISTING

DATE: 10/06/2006

PATENT APPLICATION: US/10/531,844A

TIME: 10:30:22

Input Set : A:\Sequence Listing - 100874-1P US.txt

Output Set: N:\CRF4\10062006\J531844A.raw

3 <110> APPLICANT: Jahic, Haris
 4 Kern, Gunther
 6 <120> TITLE OF INVENTION: Screening Assay to Identify Inhibitors of the MurD Enzyme
 using
 7 an Activator-Independent MurD enzyme
 9 <130> FILE REFERENCE: RE: 100874-1P US
 C--> 11 <140> CURRENT APPLICATION NUMBER: US/10/531,844A
 C--> 11 <141> CURRENT FILING DATE: 2005-04-18
 11 <150> PRIOR APPLICATION NUMBER: GB 0224997.7
 12 <151> PRIOR FILING DATE: 2002-10-26
 14 <150> PRIOR APPLICATION NUMBER: PCT/GB2003/004592
 15 <151> PRIOR FILING DATE: 2003-10-23
 17 <160> NUMBER OF SEQ ID NOS: 4
 19 <170> SOFTWARE: PatentIn version 3.3
 21 <210> SEQ ID NO: 1
 22 <211> LENGTH: 438
 23 <212> TYPE: PRT
 24 <213> ORGANISM: Escherichia coli
 26 <400> SEQUENCE: 1
 28 Met Ala Asp Tyr Gln Gly Lys Asn Val Val Ile Ile Gly Leu Gly Leu
 29 1 5 10 15
 32 Thr Gly Leu Ser Cys Val Asp Phe Phe Leu Ala Arg Gly Val Thr Pro
 33 20 25 30
 36 Arg Val Met Asp Thr Arg Met Thr Pro Pro Gly Leu Asp Lys Leu Pro
 37 35 40 45
 40 Glu Ala Val Glu Arg His Thr Gly Ser Leu Asn Asp Glu Trp Leu Met
 41 50 55 60
 44 Ala Ala Asp Leu Ile Val Ala Ser Pro Gly Ile Ala Leu Ala His Pro
 45 65 70 75 80
 48 Ser Leu Ser Ala Ala Asp Ala Gly Ile Glu Ile Val Gly Asp Ile
 49 85 90 95
 52 Glu Leu Phe Cys Arg Glu Ala Gln Ala Pro Ile Val Ala Ile Thr Gly
 53 100 105 110
 56 Ser Asn Gly Lys Ser Thr Val Thr Thr Leu Val Gly Glu Met Ala Lys
 57 115 120 125
 60 Ala Ala Gly Val Asn Val Gly Val Gly Gly Asn Ile Gly Leu Pro Ala
 61 130 135 140
 64 Leu Met Leu Leu Asp Asp Glu Cys Glu Leu Tyr Val Leu Glu Leu Ser
 65 145 150 155 160
 68 Ser Phe Gln Leu Glu Thr Thr Ser Ser Leu Gln Ala Val Ala Ala Thr
 69 165 170 175
 72 Ile Leu Asn Val Thr Glu Asp His Met Asp Arg Tyr Pro Phe Gly Leu
 73 180 185 190
 76 Gln Gln Tyr Arg Ala Ala Lys Leu Arg Ile Tyr Glu Asn Ala Lys Val

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77 195 200 205
 80 Cys Val Val Asn Ala Asp Asp Ala Leu Thr Met Pro Ile Arg Gly Ala
 81 210 215 220
 84 Asp Glu Arg Cys Val Ser Phe Gly Val Asn Met Gly Asp Tyr His Leu
 85 225 230 235 240
 88 Asn His Gln Gln Gly Glu Thr Trp Leu Arg Val Lys Gly Glu Lys Val
 89 245 250 255
 92 Leu Asn Val Lys Glu Met Lys Leu Ser Gly Gln His Asn Tyr Thr Asn
 93 260 265 270
 96 Ala Leu Ala Ala Leu Ala Asp Ala Ala Gly Leu Pro Arg Ala
 97 275 280 285
 100 Ser Ser Leu Lys Ala Leu Thr Thr Phe Thr Gly Leu Pro His Arg Phe
 101 290 295 300
 104 Glu Val Val Leu Glu His Asn Gly Val Arg Trp Ile Asn Asp Ser Lys
 105 305 310 315 320
 108 Ala Thr Asn Val Gly Ser Thr Glu Ala Ala Leu Asn Gly Leu His Val
 109 325 330 335
 112 Asp Gly Thr Leu His Leu Leu Gly Gly Asp Gly Lys Ser Ala Asp
 113 340 345 350
 116 Phe Ser Pro Leu Ala Arg Tyr Leu Asn Gly Asp Asn Val Arg Leu Tyr
 117 355 360 365
 120 Cys Phe Gly Arg Asp Gly Ala Gln Leu Ala Ala Leu Arg Pro Glu Val
 121 370 375 380
 124 Ala Glu Gln Thr Glu Thr Met Glu Gln Ala Met Arg Leu Leu Ala Pro
 125 385 390 395 400
 128 Arg Val Gln Pro Gly Asp Met Val Leu Leu Ser Pro Ala Cys Ala Ser
 129 405 410 415
 132 Leu Asp Gln Phe Lys Asn Phe Glu Gln Arg Gly Asn Glu Phe Ala Arg
 133 420 425 430
 136 Leu Ala Lys Glu Leu Gly
 137 435
 140 <210> SEQ_ID NO: 2
 141 <211> LENGTH: 456
 142 <212> TYPE: PRT
 143 <213> ORGANISM: Escherichia faecalis
 145 <400> SEQUENCE: 2
 147 Met Lys Lys Ile Thr Thr Tyr Gln Asn Lys Val Leu Val Leu Gly
 148 1 5 10 15
 151 Leu Ala Lys Ser Gly Val Ser Ala Ala Lys Leu Leu His Glu Leu Gly
 152 20 25 30
 155 Ala Leu Val Thr Val Asn Asp Ala Lys Gln Phe Asp Gln Asn Pro Asp
 156 35 40 45
 159 Ala Gln Asp Leu Leu Thr Leu Gly Ile Arg Val Val Thr Gly Gly His
 160 50 55 60
 163 Pro Ile Glu Leu Leu Asp Glu Glu Phe Glu Leu Ile Val Lys Asn Pro
 164 65 70 75 80
 167 Gly Ile Leu Tyr Thr Asn Pro Leu Val Ala Glu Ala Leu Thr Arg Lys
 168 85 90 95
 171 Ile Pro Ile Ile Thr Glu Val Glu Leu Ala Gly Gln Ile Ala Glu Cys

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172	100	105	110	
175	Pro Ile Val Gly Ile Thr Gly Thr Asn Gly Lys Thr Thr Thr Thr			
176	115	120	125	
179	Met Ile Gly Leu Leu Asn Ala Asp Arg Thr Ala Gly Glu Ala Arg			
180	130	135	140	
183	Leu Ala Gly Asn Ile Gly Phe Pro Ala Ser Thr Val Ala Gln Glu Ala			
184	145	150	155	160
187	Thr Ala Lys Asp Asp Leu Val Met Glu Leu Ser Ser Phe Gln Leu Met			
188	165	170	175	
191	Gly Ile Glu Thr Phe His Pro Gln Ile Ala Val Ile Thr Asn Ile Phe			
192	180	185	190	
195	Glu Ala His Leu Asp Tyr His Gly Ser Arg Lys Glu Tyr Val Ala Ala			
196	195	200	205	
199	Lys Trp Ala Ile Gln Lys Asn Met Thr Ala Glu Asp Thr Leu Ile Leu			
200	210	215	220	
203	Asn Trp Asn Gln Val Glu Leu Gln Thr Leu Ala Lys Thr Thr Ala Ala			
204	225	230	235	240
207	Asn Val Leu Pro Phe Ser Thr Lys Glu Ala Val Glu Gly Ala Tyr Leu			
208	245	250	255	
211	Leu Asp Gly Lys Leu Tyr Phe Asn Glu Glu Tyr Ile Met Pro Ala Asp			
212	260	265	270	
215	Glu Leu Gly Ile Pro Gly Ser His Asn Ile Glu Asn Ala Leu Ala Ala			
216	275	280	285	
219	Ile Cys Val Pro Lys Leu Lys Asn Val Ser Asn Ala Gln Ile Lys Gln			
220	290	295	300	
223	Ser Leu Thr Asn Phe Ser Gly Val Pro His Arg Thr Gln Phe Val Gly			
224	305	310	315	320
227	Glu Val Gln Gln Arg Arg Phe Tyr Asn Asp Ser Lys Ala Thr Asn Phe			
228	325	330	335	
231	Leu Ala Thr Glu Met Ala Leu Ser Gly Phe Asp Asn Gln Lys Leu Leu			
232	340	345	350	
235	Leu Leu Ala Gly Gly Leu Asp Arg Gly Asn Ser Phe Asp Glu Leu Val			
236	355	360	365	
239	Pro Ala Leu Leu Gly Leu Lys Ala Ile Val Leu Phe Gly Glu Thr Lys			
240	370	375	380	
243	Lys Lys Leu Ala Glu Ala Ala Lys Lys Pro Asn Ile Glu Thr Ile Leu			
244	385	390	395	400
247	Phe Ala Glu Asn Val Gln Thr Ala Val Thr Ile Ala Phe Asp Tyr Ser			
248	405	410	415	
251	Glu Lys Asp Asp Thr Ile Leu Leu Ser Pro Ala Cys Ala Ser Trp Asp			
252	420	425	430	
255	Gln Tyr Pro Asn Phe Glu Val Arg Gly Glu Ala Phe Met Gln Ala Val			
256	435	440	445	
259	Gln Gln Leu Lys Glu Ser Glu Met			
260	450	455		
263	<210> SEQ ID NO: 3			
264	<211> LENGTH: 448			
265	<212> TYPE: PRT			
266	<213> ORGANISM: Pseudomonas aeruginosa			

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268 <400> SEQUENCE: 3
 270 Met Ser Leu Ile Ala Ser Asp His Phe Arg Ile Val Val Gly Leu Gly
 271 1 5 10 15
 274 Lys Ser Gly Met Ser Leu Val Arg Tyr Leu Ala Arg Arg Gly Leu Pro
 275 20 25 30
 278 Phe Ala Val Val Asp Thr Arg Glu Asn Pro Pro Glu Leu Ala Thr Leu
 279 35 40 45
 282 Arg Ala Gln Tyr Pro Gln Val Glu Val Arg Cys Gly Glu Leu Asp Ala
 283 50 55 60
 286 Glu Phe Leu Cys Ser Ala Arg Glu Leu Tyr Val Ser Pro Gly Leu Ser
 287 65 70 75 80
 290 Leu Arg Thr Pro Ala Leu Val Gln Ala Ala Lys Gly Val Arg Ile
 291 85 90 95
 294 Ser Gly Asp Ile Asp Leu Phe Ala Arg Glu Ala Lys Ala Pro Ile Val
 295 100 105 110
 298 Ala Ile Thr Gly Ser Asn Ala Lys Ser Thr Val Thr Thr Leu Val Gly
 299 115 120 125
 302 Glu Met Ala Val Ala Ala Asp Lys Arg Val Ala Val Gly Gly Asn Leu
 303 130 135 140
 306 Gly Thr Pro Ala Leu Asp Leu Leu Ala Asp Asp Ile Glu Leu Tyr Val
 307 145 150 155 160
 310 Leu Glu Leu Ser Ser Phe Gln Leu Glu Thr Cys Asp Arg Leu Asn Ala
 311 165 170 175
 314 Glu Val Ala Thr Val Leu Asn Val Ser Glu Asp His Met Asp Arg Tyr
 315 180 185 190
 318 Asp Gly Met Ala Asp Tyr His Leu Ala Lys His Arg Ile Phe Arg Gly
 319 195 200 205
 322 Ala Arg Gln Val Val Val Asn Arg Ala Asp Ala Leu Thr Arg Pro Leu
 323 210 215 220
 326 Ile Ala Asp Thr Val Pro Cys Trp Ser Phe Gly Leu Asn Lys Pro Asp
 327 225 230 235 240
 330 Phe Lys Ala Phe Gly Leu Ile Glu Glu Asp Gly Gln Lys Trp Leu Ala
 331 245 250 255
 334 Phe Gln Phe Asp Lys Leu Leu Pro Val Gly Glu Leu Lys Ile Arg Gly
 335 260 265 270
 338 Ala His Asn Tyr Ser Asn Ala Leu Ala Leu Ala Leu Gly His Ala
 339 275 280 285
 342 Val Gly Leu Pro Phe Asp Ala Met Leu Gly Ala Leu Lys Ala Phe Ser
 343 290 295 300
 346 Gly Leu Ala His Arg Cys Gln Trp Val Arg Glu Arg Gln Gly Val Ser
 347 305 310 315 320
 350 Tyr Tyr Asp Asp Ser Lys Ala Thr Asn Val Gly Ala Ala Leu Ala Ala
 351 325 330 335
 354 Ile Glu Gly Leu Gly Ala Asp Ile Asp Gly Lys Leu Val Leu Leu Ala
 355 340 345 350
 358 Gly Gly Asp Gly Lys Gly Ala Asp Phe His Asp Leu Arg Glu Pro Val
 359 355 360 365
 362 Ala Arg Phe Cys Arg Ala Val Val Leu Leu Gly Arg Asp Ala Gly Leu
 363 370 375 380

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366 Ile Ala Gln Ala Leu Gly Asn Ala Val Pro Leu Val Arg Val Ala Thr
 367 385 390 395 400
 370 Leu Asp Glu Ala Val Arg Gln Ala Ala Glu Leu Ala Arg Glu Gly Asp
 371 405 410 415
 374 Ala Val Leu Leu Ser Pro Ala Cys Ala Ser Leu Asp Met Phe Lys Asn
 375 420 425 430
 378 Phe Glu Glu Arg Gly Arg Leu Phe Ala Lys Ala Val Glu Glu Leu Ala
 379 435 440 445
 382 <210> SEQ ID NO: 4
 383 <211> LENGTH: 449
 384 <212> TYPE: PRT
 385 <213> ORGANISM: Staphylococcus aureus
 387 <400> SEQUENCE: 4
 389 Met Leu Asn Tyr Thr Gly Leu Glu Asn Lys Asn Val Leu Val Val Gly
 390 1 5 10 15
 393 Leu Ala Lys Ser Gly Tyr Glu Ala Ala Lys Leu Leu Ser Lys Leu Gly
 394 20 25 30
 397 Ala Asn Val Thr Val Asn Asp Gly Lys Asp Leu Ser Gln Asp Ala His
 398 35 40 45
 401 Ala Lys Asp Leu Glu Ser Met Gly Ile Ser Val Val Ser Gly Ser His
 402 50 55 60
 405 Pro Leu Thr Leu Leu Asp Asn Asn Pro Ile Ile Val Lys Asn Pro Gly
 406 65 70 75 80
 409 Ile Pro Tyr Thr Val Ser Ile Ile Asp Glu Ala Val Lys Arg Gly Leu
 410 85 90 95
 413 Lys Ile Leu Thr Glu Val Glu Leu Ser Tyr Leu Ile Ser Glu Ala Pro
 414 100 105 110
 417 Ile Ile Ala Val Thr Gly Thr Asn Gly Lys Thr Thr Val Thr Ser Leu
 418 115 120 125
 421 Ile Gly Asp Met Phe Lys Lys Ser Arg Leu Thr Gly Arg Leu Ser Gly
 422 130 135 140
 425 Asn Ile Gly Tyr Val Ala Ser Lys Val Ala Gln Glu Val Lys Pro Thr
 426 145 150 155 160
 429 Asp Tyr Leu Val Thr Glu Leu Ser Ser Phe Gln Leu Leu Gly Ile Glu
 430 165 170 175
 433 Lys Tyr Lys Pro His Ile Ala Ile Ile Thr Asn Ile Tyr Ser Ala His
 434 180 185 190
 437 Leu Asp Tyr His Glu Asn Leu Glu Asn Tyr Gln Asn Ala Lys Lys Gln
 438 195 200 205
 441 Ile Tyr Lys Asn Gln Thr Glu Glu Asp Tyr Leu Ile Cys Asn Tyr His
 442 210 215 220
 445 Gln Arg Gln Val Ile Glu Ser Glu Glu Leu Lys Ala Lys Thr Leu Tyr
 446 225 230 235 240
 449 Phe Ser Thr Gln Gln Glu Val Asp Gly Ile Tyr Ile Lys Asp Gly Phe
 450 245 250 255
 453 Ile Val Tyr Lys Gly Val Arg Ile Ile Asn Thr Glu Asp Leu Val Leu
 454 260 265 270
 457 Pro Gly Glu His Asn Leu Glu Asn Ile Leu Ala Ala Val Leu Ala Cys
 458 275 280 285

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/531,844A

DATE: 10/06/2006

TIME: 10:30:23

Input Set : A:\Sequence Listing - 100874-1P US.txt
Output Set: N:\CRF4\10062006\J531844A.raw

L:11 M:270 C: Current Application Number differs, Replaced Current Application No

L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date